

## GRAINS AND OILSEEDS OUTLOOK FOR 2001<sup>1</sup>

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### **Introduction**

Fertilizer costs, market price relationships to loan rates, limited availability of quality soybean seed, China trade, production in export competitor countries, interest rates, the Bioenergy Program, and Government payments are hot issues swirling in agricultural circles as we grapple with the U.S. grains and oilseeds outlook for the 2001. This paper will focus on the supply, demand, and market price outlook for wheat, corn, and the soybean complex taking into account the factors listed above. A key factor critical to the outlook for wheat, corn, and soybeans is China. We have assumed in our outlook that China is not a member of the World Trade Organization (WTO).

Wheat and corn ending stocks for the 2001/02 marketing year are forecast to decrease 14 and 13 percent, respectively, compared with the 2000/01 estimates. Thus, wheat and corn market prices are projected to improve about 8 percent, averaging around \$2.85 per bushel for wheat and \$1.95 for corn. Conversely, despite expectations of record usage, soybean ending stocks are forecast at 475 million bushels, an increase of 38 percent, and soybean prices are projected to average around \$4.25 per bushel or \$0.40 below the 2000/01 level.

### **Planted Acreage Outlook for 2001**

Table 1 shows wheat, corn, and soybean planted acreage for crop years 1996-2000 and projections for 2001. The table shows the significant acreage shift between the three commodities since the 1996 Farm Act took affect. Soybean acreage has increased from the 1996 level of 64.2 million acres to a record 74.5 million acres in 2000, while wheat area decreased from 75.1 million acres to 62.5 million acres. Corn acreage has been relatively stable without a discernable trend, ranging between 77.4 million acres to 80.2 million acres and averaging 36 percent of total area planted to wheat, corn, and soybeans over the period.

Table 2 compares wheat, corn, and soybean net returns. Since 1999, net returns for wheat and corn have eroded compared with soybeans, largely, because loan benefits have kept soybean producer net returns from

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decreasing despite lower market prices.

The corn 2001 planted acreage forecast at 78.0 million acres is 1.6 million acres less than for the 2000 crop. Many analysts believe that nearly ideal planting conditions were responsible for up to one-half of the 2.2 million acre increase in corn plantings in 2000. Assuming normal weather, much of these “extra acres” will not likely be planted to corn this spring. Attractive soybean loan rates and lower fertilizer requirements for other crops account for the rest of the expected decline in corn plantings.

Less fall planted wheat, higher fertilizer prices, planting flexibility, and the benefits of the soybean marketing loan program are expected to provide incentives to further expand soybean plantings in 2001 at the expense of corn and wheat. Mitigating factors to the soybean acreage expansion are the limited availability of quality seed and the longer term benefits of maintaining crop rotations (i.e., pest, disease, and weed control).

Winter wheat plantings decreased by 2 million acres from last year to the lowest level since 1971 as prolonged extremely dry conditions, followed by cold, wet weather kept some producers from planting in the Plains. Also, weak prices and a wet fall dropped soft red plantings. Higher spring wheat acres will offset some of the drop in winter wheat, but total wheat planted area is expected to be the smallest since 59.3 million in 1973.

### **Wheat Supply, Demand, and Price Outlook for 2001/02 (Table 3)**

Wheat Supplies: While there remain many questions about the number of spring wheat acres, there is also more uncertainty about harvested acres of winter wheat. Table 3 shows a forecast harvested area of 52.5 million, the lowest since 1972. The harvested area is forecast using an “adjusted” 5-year average harvested-to-planted ratio. The calculated 2001 harvested area based on the 5-year average is reduced 0.5 million acres because of the late plantings and emergence and currently poor condition of some of the wheat in the Southern Plains as well as the pending decisions regarding the profitability to top dress fertilizer this spring. Assuming an average wheat yield of 40.5 bushels per acre, based on the average of 1996-2000 yields by State, results in production of 2,125 million bushels, down 98 million from last year. The lower production combined with lower beginning stocks results in 2001/02 supplies down a little more than 200 million bushels from a year earlier.

Wheat Domestic Demand: Food use will likely increase about 1 percent. This change is commensurate with population growth and the average annual percentage change in food use since 1990. Feed and residual is expected to be 275 million bushels, down 25 million bushels from the 2000/01 level because of lower supplies. On balance, domestic use is expected to decrease 11 million bushels.

Wheat Export Demand: U.S. exports are expected to fall in 2001/02 to 1,025 million bushels. Weaker global imports are expected and the U.S. will continue to face stiff competition.

The biggest factor that will drive down import needs is the recovery of production in the Middle East/North African region where severe drought slashed wheat production in the previous 2 years. Although the recovery is spotty, with some pockets of concern remaining, overall production gains are expected to be sufficient enough to reduce import needs. Iran, for example, the world’s second largest importer over the previous 2

years, could reduce imports 2 to 3 million tons. Some recovery in wheat production is also likely in Eastern Europe, after drought cut the region's crops in 2000. However, the expected recovery will be mixed because much of the Southern Balkans remains drier than normal.

China is forecast to provide some offset in global demand as its wheat imports are forecast to increase. The big question is "how much will they import?". Some analysts are expecting 7 million tons or more. We have assumed China will import 3 million tons. China had a poor crop in 2000 and there are numerous reports that winter wheat seedings are down for the 2001 crop. Growing conditions to date have been favorable and yields should rebound. However, an increasing portion of the land is being planted to lower yielding, higher quality varieties. But the biggest unknowns are how much wheat stocks China has and what is the condition of the stocks. No one knows!

Among the exporters, Australia is likely to increase exports the most in 2001/02 because of large exportable supplies. ABARE recently reported that the 2000 crop was much larger than expected plus another large crop is expected in 2001. Export prospects for Canada and Argentina are fairly steady. However, the EU could show a marked drop due to a smaller crop. Prolonged wet conditions have cut winter wheat seeding in France, the UK, Germany, and Spain. Among the smaller exporters, India is expected to continue exports even with lower production prospects due to large stocks. However, Pakistan's unusual exports of 2000/01 are expected to end, as dry conditions have cut production prospects sharply from the record levels in 2000.

Wheat Ending Stocks and Market Prices: Total use in 2001/02 is expected to drop 4 percent, but supplies are down more, so ending stocks, at 721 million bushels, are the lowest since 1996/97. Thus, market prices are expected to average about \$2.85 per bushel, up from \$2.65 in 2000/01.

The crucial question for the wheat market price outlook is "will this be the year that the world wheat market tightens up enough to push up prices?". A significant decline in stocks in the last two years increased the market's vulnerability to shocks, but production problems around the globe were too limited to strengthen prices. The 2001/02 trade year will open with relatively low carryin stocks, and the outlook is for some decline in world wheat area. However, the overpowering questions are "how tight are wheat supplies in China?" and "how much will the country need to import?".

#### **Corn Supply, Demand, and Price Outlook for 2001/02 (Table 4)**

Corn Supplies: Corn harvested acreage for grain is forecast at 71.2 million acres based on the average harvested-to-planted ratio for crop years 1997, 1999, and 2000. The harvested-to-planted ratio in 1998 was unusually low due to drought-related abandonment and, therefore, excluded from the calculation. The trend yield based on crop years 1960-2000 is 135.9 bushels per acre, below last year's yield of 137.1 and the 1994 record of 138.6. Thus, corn production is forecast at 9,675 million bushels and total supplies are forecast at 11,576 million bushels, 1 percent below the previous year's supplies.

Concerns at this time center around input costs and fertilizer availability rather than weather. The weather focus will increase as we approach and progress through planting season. The number one issue for corn in 2001 is how growers will deal with higher nitrogen prices and possible shortages. Many Corn Belt agronomists have

said that some reductions in application rates may have little impact on yields due to overuse in the past, when lower costs provided less incentive for monitoring use. Further, more producers have integrated soybeans into their crop rotations, particularly in the Western Corn Belt after planting flexibility took effect in 1996, and may not be fully taking into account the nitrogen carryover effect from the soybeans. Higher prices this year will likely promote more precise application rates through soil testing and increased side dressing. However, high fuel prices will raise the costs of additional passes through the fields, so this option may not be an automatic choice.

Corn Domestic Demand: Forecast corn feed and residual use is up 25 million bushels in 2001/02 compared with 2000/01. Pork producers are increasing the number of sows farrowing and feed use may be stronger. The dairy sector is forecast to keep milk production about the same through 2001, then increase slightly in 2002, thus, keeping feed demand strong. Similarly, the poultry sector is also expected to increase production during the period, keeping feed needs strong. Beef production is forecast to slip 4 percent in 2001 and 2 percent in 2002. Thus, their feed needs may not be as strong.

FSI use is expected to increase 3 percent from the 2000/01 level. Corn used to make high fructose corn syrup (HFCS) is forecast to increase 3 percent, returning to longer run growth in use. Use of corn to produce glucose and dextrose is expected to grow slightly, while use of corn in starch production is up 2 percent. Corn used to produce fuel alcohol is forecast to grow 5 percent in 2001/02 from the year earlier, following a 9 percent increase in 2000/01 from the 1999/00 level. Incentives under the Bioenergy Program are expected to help boost corn used in alcohol production, probably near plant capacities. For 2000/01, 42 companies have signed up to increase ethanol output by 246 million gallons in response to incentives under the program. Corn used in beverage and manufacturing alcohol plus cereals and other production are forecast to grow about 1 percent per year, near the rate of increase in the population.

Corn Export Demand: The global setting for feed grain trade in 2001/02 is generally favorable. Economic growth worldwide will slow from the robust pace of 2000/01, but it should remain strong. This suggests continued increases in meat and poultry consumption and, thus, demand for corn and other feedstuffs. Domestic production of feed grains also influences import prospects in many countries, but several of the largest markets do not grow much, if any, feed grains themselves.

A modest increase in U.S. corn exports is forecast for 2001/02. Exports are projected at 2,100 million bushels, up 50 million from the 2000/01 forecast. There are few changes anticipated in the fundamentals of the world market. Global imports are likely to decline slightly, while export competition abates somewhat, but remains formidable. Small amounts of feed wheat, similar to 2000/01, are expected to compete with corn in certain markets, notably South Korea, while sorghum trade is expected to increase because of increased availability in the U.S.

There are few significant changes forecast in global imports in 2001/02. This year's record large corn crop in Brazil will mean negligible imports in 2001/02 and continuation of some exports. Asian imports should increase modestly, with gains in Indonesia and Malaysia. However, corn imports by the largest Asian buyers, Taiwan, South Korea, and Japan, will be about flat. Imports by Japan may weaken slightly in the face of continued gains in meat and poultry imports and a soft economy. What is notable on the import side is the lack of import

growth seen for China in 2001. Without the impetus of the WTO commitment to start minimum import quotas, China corn purchases will stay insignificant.

Foreign corn exports are forecast to decline in 2001/02, leading to the increase in U.S. exports and market share. The major reason for the reduction in competing exports—and the major source of uncertainty—will be China. China is expected to reduce corn exports for the second consecutive year, but the question is by how much. Exports for 2000/01 are forecast at 6 million tons, with the initial forecast for 2001/02 at 4 million tons. In addition to the usual crop production uncertainty, difficulty in gauging China's export intentions stems from the unknown size of its corn stocks, and policy questions, especially how long China will continue using export subsidies.

Aggregate shipments by other corn exporters are expected to show little change in 2001/02. Argentina's exports will remain high as low soybean prices favor increased corn plantings for the crop to be harvested beginning in March 2002. Elsewhere, recovery from drought in Eastern Europe will allow a marked rebound in its corn exports. Conversely, South Africa's export prospects in 2001/02 will weaken because of a sharp decline in corn production for the crop to be harvested in coming months.

Corn Ending Stocks and Market Prices: Ending stocks are forecast at 1,636 million bushels, a drawdown of 255 million bushels from the previous year and the lowest since 1997/98. The ending stocks-to-use ratio of 16.5 percent is below the 2000/01 estimate of 19.3. Thus, market prices are expected to average about \$1.95 per bushel, up from \$1.80 in 2000/01. Corn prices could increase significantly if dry conditions develop prior to and during the pollination period.

### **Soybean Supply, Demand, and Price Outlook for 2001/02 (Tables 5-7)**

Soybean Supplies: Domestic soybean supplies are projected at a record 3.3 billion bushels for 2001/02. This is up 7.5 percent from 2000/01, and the fifth consecutive year supplies have broken previous-year records. The increase in available supplies is projected as the result of a 19 percent year-to-year increase in beginning stocks and a projected 1.3 percent, or 1 million acre increase in soybean planted acreage. Production is forecast at 2,945 million bushels, exceeding last year's record by 6 percent. Larger 2001/02 supplies are projected despite yield prospects for the 2001 crop well below the record 41.4 bushels per acre achieved in 1994/95.

The trend yield for 2001 is projected at 39.5 bushels per acre. This is down from last year's 40 bushel-per-acre projection for the 2000 crop. While the year-to-year trend increase remains at 0.5 bushels per acre, 1999 and 2000 yields have pushed down the U.S. yield trend line about 1 bushel per acre. Hot, dry conditions in late summer 1999 reduced yields throughout the traditional soybean growing areas in the Eastern Corn Belt States and Iowa. Similar conditions last August and September reduced yields in the Western Corn Belt as well as the quality of seed for the 2001 crop. Even using more normal weather assumptions for 2001, germination rates lower than normal increases downside yield risk, but growers will likely compensate by increasing seeding rates and avoid early planting into cold soils.

Soybean Domestic Demand: Domestic disappearance for 2001/02 is projected to increase 3.4 percent, to 1.8

billion bushels. Domestic crushing is projected at a record 1.65 billion bushels, up 3.5 percent from 2000/01. Continuing low prices for meal and expansion in hog and poultry production are expected to increase meal demand in 2001/02. Domestic meal use is projected up 2.2 percent for 2001/02. Meal prices for 2001/02 are projected at \$170 per ton, down from a projected \$178 per ton for the current year, but up slightly from the 1999/00 price of \$168 per ton. Domestic soybean oil demand is projected to grow modestly again helped by low prices and a little more industrial use. With higher demand for soybean oil expected, oil prices may bottom out and prevent further erosion of domestic crushing margins.

Interest in non-food uses is growing as prices are competitive in many of the industrial markets. Greater vegetable oil use in animal rations is also likely as oil extraction rates drop. Biodiesel use should expand some as well. Under the Bioenergy Program, companies producing biodiesel from soybeans intend to increase output by 36 million gallons (about 10 million bushels) for the December 2000-September 2001 period compared with year earlier levels. The Bioenergy Program will also be in effect for fiscal year 2002 (October 2001-September 2002).

Soybean Export Demand: Foreign protein meal use is projected to increase 2.5 to 3.0 percent in 2001/02, about the same as in 2000/01. Soybean meal use is expected to slow slightly as production and use of competitive meals in importing countries rebound from reduced 2000/01 levels. Nevertheless, Asia, Mexico, other Latin America and Middle East countries are expected to have modest to strong growth. China and Mexico will contribute little to soybean meal imports, as both countries prefer to import soybeans and crush them locally. European soybean meal imports are expected to show little growth as overall demand for oilmeals is expected to grow only slightly from 2000/01 levels. High prices for meal relative to grains are expected to continue to limit European meal use. Some shifting from beef to hog feeding and a probable exclusion of animal protein feeds, however, are expected to continue boosting meal use. Overall, U.S. soybean meal exports are expected to increase by 4 percent, to 7.4 million short tons in 2001/02. This expected increase reflects world import demand growth, as well as, slower growth in South American soybean and meal exports.

Despite the expected strong growth in palm oil trade for 2001/02, low soybean oil prices are expected to generate a modest 3-percent growth in world soybean oil trade. With huge supplies, projecting when global vegetable oil markets begin to turn around is difficult. The major vegetable oil importers, China and India, will likely have more domestic oilseed production, while import policies, especially in India, could have the effect of significantly slowing growth in palm and other vegetable oil trade. This is particularly troubling as palm oil production has been expanding sharply to record levels in both Malaysia and Indonesia and will likely keep global vegetable oil inventories at near record levels through 2001/02. Prices for soybean oil could remain close to 30-year lows at least through early 2001/02.

Although U.S. soybean production is projected to increase by more than 6 percent, soybean production in the rest of the world is expected to increase only slightly (less than 0.5 percent) in 2001/02. Continued low prices and large U.S. and global stocks of oilseeds and oils will weigh on foreign production decisions in the year ahead, likely causing modest production declines in competing exporter countries. Importing countries, such as India and China, are expected to experience increases in oilseed production, rapeseed in particular. However these increases will not be enough to meet their internal demand growth, particularly for oilmeals and soybeans.

The picture is somewhat less bright for vegetable oil import demand. Global demand for rapeseed and other high-oil-content seeds could experience some slowing in 2001/02 as many of the big Asian importers have more than adequate supplies.

U.S. soybean exports are projected at 1.0 billion bushels in 2001/02. U.S. exports will be boosted by larger U.S. availabilities, reduced South American supplies, and expanded foreign import demand. China's preference for imports of soybeans rather than products will provide additional growth for soybean imports. Imports of soybeans by China should remain strong at 9 to 10 million tons in 2001/02, but likely below the 10.1 million ton record of 1999/2000.

Soybean Ending Stocks and Market Prices: Despite an outlook for growth in domestic and export demand to reach record levels, a larger growth in supplies is expected to leave 2001/02 ending stocks up 38 percent from current year projections. At 475 million bushels, 2001/02 ending stocks would be the largest since 1985/86. Heavy supplies and large ending stocks for 2001/02 are expected to pressure prices into the lower \$4 per bushel range. Producers' incomes will continue to be supported by the marketing assistance loan program and program outlays could approach \$4 billion for the 2001/02 crop.

### **Summary**

Market prices for corn and wheat will likely improve in 2001/02 largely because of reduced supplies. Even though wheat use will drop moderately, lower supplies will reduce stocks. For corn, slightly larger use will combine with lower supplies to drop ending stocks. Conversely, soybean prices, projected at around \$4.25 per bushel, will be under intense pressure as production and supplies balloon to record levels despite projected record demand. Soybean oil prices are projected to remain around the 2000/01 forecast level of \$0.135 per pound through 2001/02. Competition for exports will be fierce because of the large global supplies of oilseeds and oils. Soybean meal market prices are projected at \$170 per ton and will be supported by record domestic disappearance.

Table 1. Wheat, Corn, and Soybean Planted Acreage, 1996-2001F (million acres)

	1996	1997	1998	1999	2000	2001F
Wheat	75.1	70.4	65.8	62.7	62.5	61.0
Corn	79.2	79.5	80.2	77.4	79.6	78.0
Soybeans	64.2	70.0	72.0	73.7	74.5	75.5
Total	218.5	219.9	218.0	213.8	216.6	214.5

F = Forecast

Source: National Agriculture Statistics Service.

Table 2. Comparison of Net Returns Above Variable Costs for Wheat, Corn, and Soybeans, 1996-2001F (\$ per acre)

	1996	1997	1998	1999	2000	2001F
Net Returns (\$/acre)						
Wheat	86.08	63.27	64.16	67.36	69.14	55.89
Corn	187.93	151.23	125.66	125.03	125.15	124.94
Soybeans	196.36	172.64	129.84	125.08	139.48	151.18
Ratio to Soybeans (percent)						
Wheat	44	37	49	54	50	36
Corn	96	88	97	100	90	80

F = Forecast

1/ Net returns above variable costs per acre = (market revenue plus loan benefit revenue) minus variable costs  
 where: market revenue = average market price *times* harvested yield, and average loan benefit revenue =  
 (((loan deficiency payments *plus* marketing loan gains) *divided by* production) *times* harvested yield).



Table 3. Wheat: Supply, Demand, and Price, 1999/00-2001/02

	1999/00	2000/01	2001/02
		1/	2/
Area planted (mil. acres)	62.7	62.5	61.0
Area harvested	53.8	53.0	52.5
Yield (bu./acre)	42.7	41.9	40.5
Production (mil. bushels)	2,299	2,223	2,125
Beginning Stocks	946	950	839
Imports	95	95	100
Supply	3,339	3,268	3,064
Feed and residual	284	300	275
Food, seed, & industrial	1,016	1,029	1,043
Total Domestic Use	1,300	1,329	1,318
Exports	1,090	1,100	1,025
Total Use	2,390	2,429	2,343
Ending Stocks	950	839	721
Farm Price (\$/bushel)	2.48	2.65	2.85
		3/	

1/ Forecast. 2/ Projected. 3/ Mid-point of forecast range

Table 4. Corn: Supply, Demand, and Price, 1999/00-2001/02

	1999/00	2000/01	2001/02
		1/	2/
Area planted (mil. acres)	77.4	79.6	78.0
Area harvested	70.5	72.7	71.2
Yield (bu./acre)	133.8	137.1	135.9
Production (mil. bushels)	9,431	9,968	9,675
Beginning Stocks	1,787	1,718	1,891
Imports	15	10	10
Supply	11,232	11,696	11,576
Feed and residual	5,664	5,775	5,800
Food, seed, & industrial	1,913	1,980	2,040
Total Domestic Use	7,578	7,755	7,840
Exports	1,937	2,050	2,100
Total Use	9,515	9,805	9,940
Ending Stocks	1,718	1,891	1,636
Farm Price (\$/bushel)	1.82	1.80	1.95
		3/	

1/ Forecast. 2/ Projected. 3/ Mid-point of forecast range.

Table 5. Soybeans: Supply, Demand, and Price, 1999/00-2001/02

	1999/00	2000/01	2001/02
		1/	2/
Area planted (mil. acres)	73.7	74.5	75.5
Area harvested	72.4	72.7	74.5
Yield (bu./acre)	36.6	38.1	39.5
Production (mil. bushels)	2,654	2,770	2,945
Beginning Stocks	348	290	345
Imports	4	3	3
Supply	3,006	3,063	3,293
Crush	1,579	1,590	1,645
Seed, & residual	164	168	173
Total Domestic Use	1,743	1,758	1,818
Exports	973	960	1,000
Total Use	2,716	2,718	2,818
Ending Stocks	290	345	475
Farm Price (\$/bushel)	4.63	4.65	4.25
		3/	

1/ Forecast. 2/ Projected. 3/ Mid-point of forecast range.

Table 6. Soybean Meal: Supply, Demand, and Price, 1999/00-2001/02

	1999/00	2000/01	2001/02
		1/	2/
Thousand short tons			
Beginning Stocks	330	293	275
Production	37,623	38,132	39,235
Imports	49	50	65
Supply	38,003	38,475	39,575
Domestic Use	30,378	31,200	31,900
Exports	7,331	7,000	7,400
Total Use	37,710	38,200	39,300
Ending Stocks	293	275	275
Avg. Meal Price (\$/ton)	168	178	170
		3/	

1/ Forecast. 2/ Projected. 3/ Mid-point of forecast range.

Table 7. Soybean Oil: Supply, Demand, and Price, 1999/00-2001/02

	1999/00	2000/01	2001/02
		1/	2/
	Million pounds		
Beginning Stocks	1,520	1,995	2,290
Production	17,824	17,920	18,505
Imports	83	75	75
Supply	19,427	19,990	20,870
Domestic Use	16,055	16,400	16,800
Exports	1,376	1,300	1,650
Total Use	17,432	17,700	18,450
Ending Stocks	1,995	2,290	2,420
Avg. Oil Price (\$/lb.)	0.156	0.135	0.135
		3/	

1/ Forecast. 2/ Projected. 3/ Mid-point of forecast range.